

## **Proposed Massachusetts Stretch Energy Code**

### **Questions & Answers (Q&A) on Commercial Building Requirements**

#### **What would be required for large new commercial buildings above 100,000 square feet?**

Energy use would be required to be at least 20% below the use expected based on the building code energy modeling standards contained in ASHRAE 90.1 2007<sup>1</sup>, which is the latest version of the national model code for commercial buildings. This would be determined by computer modeling of the building, taking into account factors such as air sealing, insulation, and efficiency of the heating system, ventilation, and light fixtures. Builders would have flexibility to choose any efficiency features they prefer, as long as modeling shows that overall they yield the 20% reduction relative to the base code requirements.

#### **What would be required for new commercial buildings between 5,000 and 100,000 square feet?**

Builders of such buildings have two choices. First, they could use the same modeling as for buildings above 100,000 square feet, and meet the same standard of 20% below ASHRAE 90.1 2007. Alternatively, they could choose a set of “prescriptive” requirements for particular efficiency measures, given by the International Energy Conservation Code (IECC) 2009, with enhancements based on the Core Performance Guide from the New Buildings Institute (these enhancements are found in Chapter 5 of 780 CMR Appendix 120 AA). ASHRAE and IECC are the two national model codes, and are similar in their energy requirements, although the IECC code is simpler. The Core Performance Guide is a nationally-recognized standard, and is used by National Grid and NSTAR now as the basis for providing financial incentives to commercial building developers.

#### **What would be required of small new commercial buildings, below 5,000 square feet?**

Such buildings would be exempt from the Stretch Code requirements.

#### **What categories do multi-family residential buildings fall into?**

Residential multi-family buildings that are above 100,000 square feet and at least four stories tall would have the same requirements as commercial building above 100,000 square feet. Residential below 100,000 square feet and at least four stories tall would be classified with commercial buildings between 5,000 and 100,000 square feet. Multi-family with one to three stories would fall under the residential stretch code standards.

#### **How would commercial renovations be handled?**

Commercial renovations would be exempt from the Stretch Code requirements.

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<sup>1</sup> Specifically: ASHRAE Standard 90.1-2007 Energy Standard for Buildings Except Low-Rise Residential Buildings, Appendix G.

### **How would new commercial buildings with special energy needs be handled?**

Supermarkets, laboratories, and warehouses below 100,000 square feet would all be exempt. Other specialty buildings could apply for waivers based on evidence that they have unusual energy loads, and that they are not typically built using energy modeling.

### **How would the benefits and costs from these Stretch Code standards compare to the baseline code?**

Modeling of specific buildings by NGRID and NSTAR shows that the savings in reduced energy costs typically produce immediate positive cash flow when the additional capital costs are financed through standard mortgage loans. Moreover, the utilities offer generous incentives that make the efficiency improvements even more profitable. For example, on one mid-sized office building in Warwick, Rhode Island, the additional cost was \$91,000, while the annual energy savings were \$29,500, for a three year payback. But NGRID provided a rebate of \$63,100, reducing the initial cost to \$28,000, which is covered by the first year's energy savings. Generally any additional upfront costs incurred in construction can be recovered from energy savings with a payback after rebates of less than three years.